



World Development Report 1993
Investing in Health

Published for the World Bank
Oxford University Press

Oxford University Press

OXFORD NEW YORK TORONTO DELHI
BOMBAY CALCUTTA MADRAS KARACHI
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for Reconstruction and Development / THE WORLD BANK
1818 H Street, N.W., Washington, D.C. 20433 U.S.A.

Published by Oxford University Press, Inc.
200 Madison Avenue, New York, N.Y. 10016

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Manufactured in the United States of America
First printing June 1993

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The map on the cover, which shows the eight demographic regions used in the analysis in this Report, seeks to convey an impression of the general improvement in health experienced worldwide during the past forty years.

ISBN 0-19-520889-7 clothbound
ISBN 0-19-520890-0 paperback
ISSN 0163-5085



Text printed on recycled paper that conforms to the American National Standard for Permanence of Paper for Printed Library Materials, Z39.48-1984



Foreword

World Development Report 1993, the sixteenth in this annual series, examines the interplay between human health, health policy, and economic development. The three most recent reports—on the environment, on development strategies, and on poverty—have furnished an overview of the goals and means of development. This year's report on health, like next year's on infrastructure, examines in depth a single sector in which the impact of public finance and public policy is of particular importance.

Countries at all levels of income have achieved great advances in health. Although an unacceptably high proportion of children in the developing world—one in ten—die before reaching age 5, this number is less than half that of 1960. Declines in poverty have allowed households to increase consumption of the food, clean water, and shelter necessary for good health. Rising educational levels have meant that people are better able to apply new scientific knowledge to promote their own and their families' health. Health systems have met the demand for better health through an expanded supply of services that offer increasingly potent interventions.

Yet developing countries, and especially their poor, continue to suffer a heavy burden of disease, much of which can be inexpensively prevented or cured. (If the child mortality rate in developing countries were reduced to the level that prevails in high-income countries, 11 million fewer children would die each year.) Furthermore, increasing numbers of developing countries are beginning to face the problems of rising health system costs now experienced by high-income countries.

This Report advocates a three-pronged approach to government policies for improving health in developing countries. First, governments need to foster an economic environment that enables households to improve their own health. Growth policies (including, where necessary, economic adjustment policies) that ensure income gains for the poor are essential. So, too, is expanded investment in schooling, particularly for girls.

Second, government spending on health should be redirected to more cost-effective programs that do more to help the poor. Government spending accounts for half of the \$168 billion annual expenditure on health in developing countries. Too much of this sum goes to specialized care in tertiary facilities that provides little gain for the money spent. Too little goes to low-cost, highly effective programs such as control and treatment of infectious diseases and of malnutrition. Developing countries as a group could reduce their burden of disease by 25 percent—the equivalent of averting more than 9 million infant deaths—by redirecting to public health programs and essential clinical services about half, on average, of the government spending that now goes to services of low cost-effectiveness.

Third, governments need to promote greater diversity and competition in the financing and delivery of health services. Government financing of public health and essential clinical services would leave the coverage of remaining clinical services to private finance, usually mediated through insurance, or to social insurance. Government regulation can strengthen private insurance markets by improving incentives for wide coverage and for cost control. Even for publicly financed clinical services, governments can encourage competition and private sector involvement in service supply and can help improve the efficiency of the private sector by generating and disseminating key information. The combination of these measures will improve health outcomes and contain costs while enhancing consumer satisfaction.

Significant reforms in health policy are feasible, as experience in several developing countries has shown. The donor community can assist by financing the transitional costs of change, especially in low-income countries. The reforms outlined in this Report will translate into longer, healthier, and more productive lives for people around the world, and especially for the more than 1 billion poor.

The World Health Organization (WHO) has been a full partner with the World Bank at every

step of the preparation of the Report. I would like to record my appreciation to WHO and to its many staff members at global and regional levels who facilitated this partnership. The Report has benefited greatly from WHO's extensive technical expertise. Starting from the Report's conception, WHO participated actively by providing data on various aspects of health development and systematic input for many technical consultations. Perhaps WHO's most significant contribution was in a jointly sponsored assessment of the global burden of disease, which is a key element of the Report. I look forward to continued collaboration between the World Bank and WHO in the discussion and implementation of the messages in this Report. The United Nations Children's Fund (UNICEF), bilateral agencies, and other institutions also contributed their expertise, and the

World Bank is grateful to them as well. Specific acknowledgments are provided elsewhere in the Report.

Like its predecessors, *World Development Report 1993* includes the World Development Indicators, which offer selected social and economic statistics on 127 countries. The Report is a study by the Bank's staff, and the judgments made herein do not necessarily reflect the views of the Board of Directors or of the governments they represent.



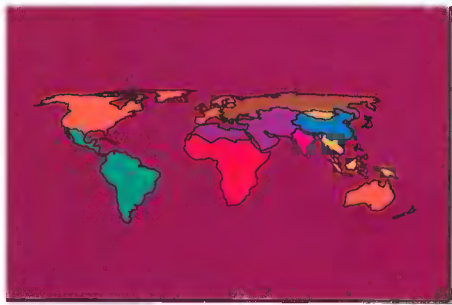
Lewis T. Preston
President
The World Bank

May 31, 1993

This Report has been prepared by a team led by Dean T. Jamison and comprising José-Luis Bobadilla, Robert Hecht, Kenneth Hill, Philip Musgrove, Helen Saxenian, Jee-Peng Tan, and, part-time, Seth Berkley and Christopher J. L. Murray. Anthony R. Measham drafted and coordinated contributions from the Bank's Population, Health, and Nutrition Department. Valuable contributions and advice were provided by Susan Cochrane, Thomas W. Merrick, W. Henry Mosley, Alexander Preker, Lant Pritchett, and Michael Walton. Extensive input to the Report from the World Health Organization was coordinated through a Steering Committee chaired by Jean-Paul Jardel. An Advisory Committee chaired by Richard G. A. Feachem provided valuable guidance at all stages of the Report's preparation. Members of these committees are listed in the Acknowledgments. Peter Cowley, Anna E. Maripuu, Barbara J. McKinney, Karima Saleh, and Abdo S. Yazbeck served as research associates, and interns Lecia A. Brown, Caroline J. Cook, Anna Godal, and Vito Luigi Tanzi assisted the team. The work was carried out under the general direction of Lawrence H. Summers and Nancy Birdsall.

Many others inside and outside the Bank provided helpful comments and contributions (see the Bibliographical note). The Bank's International Economics Department contributed to the data appendix and was responsible for the World Development Indicators. The production staff of the Report included Ann Beasley, Stephanie Gerard, Jane Gould, Kenneth Hale, Jeffrey N. Lecksell, Nancy Levine, Hugh Nees, Kathy Rosen, and Walton Rosenquist. The support staff was headed by Rhoda Blade-Charest and included Laitan Alli and Nyambura Kimani. Trinidad S. Angeles served as administrative assistant. John Browning was the principal editor, and Rupert Pennant-Rea edited two chapters.

Preparation of this Report was immensely aided by contributions of the participants in a series of consultations and seminars; the subjects and the names of participants are listed in the Acknowledgments. The consultations could not have occurred without financial cooperation from the following organizations, whose assistance is warmly acknowledged: the Canadian International Development Association, the Danish International Development Agency, the Edna McConnell Clark Foundation, the Norwegian Ministry of Foreign Affairs, the Rockefeller Foundation, the Swiss Development Cooperation, the U.S. Agency for International Development, the Overseas Development Administration of the United Kingdom, and the Environmental Health Division and the Special Programme for Research and Training in Tropical Diseases of the World Health Organization. The World Health Organization and the United Nations Children's Fund contributed to the preparation of the statistical appendices. Three academic institutions—the Harvard Center for Population and Development Studies, the London School of Hygiene and Tropical Medicine, and the Swiss Tropical Institute—provided important support for the preparation of the Report.



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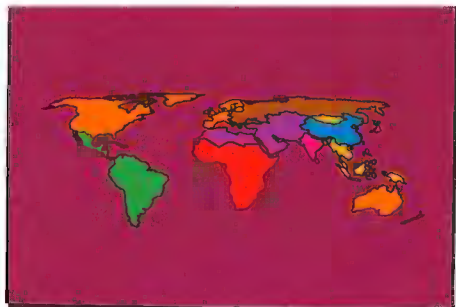
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Definitions and data notes

Selected terms related to health, as used in this Report

Child mortality. The probability of dying between birth and age 5, expressed per 1,000 live births. The term *under-five mortality* is also used.

Median age at death. The age below which half of all deaths in a year occur. This measure is determined both by the age distribution of the population and by the age pattern of mortality risks. It does not represent the average age at which any group of individuals will die, and it is not directly related to life expectancy.

Total fertility rate. The number of children that would be born to a woman if she were to live to the end of her childbearing years and bear children at each age in accordance with prevailing age-specific fertility rates.

Externality. A spillover of benefits or losses from one individual to another.

Intervention (in health care). A specific activity meant to reduce disease risks, treat illness, or palliate the consequences of disease and disability.

Allocative efficiency. The extent of optimality in distribution of resources among a number of competing uses.

Technical efficiency. The extent to which choice and utilization of input resources produce a specific health output, intervention, or service at lowest cost.

Cost-effectiveness (in health care). The net gain in health or reduction in disease burden from a health intervention in relation to the cost. Measured in dollars per disability-adjusted life year (see next two entries).

Global burden of disease (GBD). An indicator developed for this Report in collaboration with the World Health Organization that quantifies the loss of healthy life from disease; measured in disability-adjusted life years.

Disability-adjusted life year (DALY). A unit used for measuring both the global burden of disease and the effectiveness of health interventions, as indicated by reductions in the disease burden. It is

calculated as the present value of the future years of disability-free life that are lost as the result of the premature deaths or cases of disability occurring in a particular year. (See Box 1.3 and Appendix B for further details.)

Population-based health services. Services, such as immunization, that are directed toward all members of a specific population subgroup.

Tertiary care facility. A hospital or other facility that offers a specialized, highly technical level of health care for the population of a large region. Characteristics include specialized intensive care units, advanced diagnostic support services, and highly specialized personnel.

Country groups

For operational and analytical purposes the World Bank's main criterion for classifying economies is gross national product (GNP) per capita. Every economy is classified as low-income, middle-income (subdivided into lower-middle and upper-middle), or high-income. Other analytical groups, based on regions, exports, and levels of external debt, are also used.

Because of changes in GNP per capita, the country composition of each income group may change from one edition to the next. Once the classification is fixed for any edition, all the historical data presented are based on the same country grouping. The income-based country groupings used in this year's Report are defined as follows.

- *Low-income economies* are those with a GNP per capita of \$635 or less in 1991.
- *Middle-income economies* are those with a GNP per capita of more than \$635 but less than \$7,911 in 1991. A further division, at GNP per capita of \$2,555 in 1991, is made between lower-middle-income and upper-middle-income economies.
- *High-income economies* are those with a GNP per capita of \$7,911 or more in 1991.
- *World* comprises all economies, including economies with sparse data and those with less than 1 million population; these are not shown

separately in the main tables but are presented in Table 1a in the technical notes to the World Development Indicators (WDI).

Demographic regions

For purposes of demographic and epidemiological analysis, this year's Report (including its health data appendices but not the WDI) groups economies into eight demographic regions, defined as follows:

- *Sub-Saharan Africa* comprises all countries south of the Sahara including Madagascar and South Africa but excluding Mauritius, Reunion, and Seychelles, which are in the Other Asia and islands group.

- *India*
- *China*

- *Other Asia and islands* includes the low- and middle-income economies of Asia (excluding India and China) and the islands of the Indian and Pacific oceans except Madagascar.

- *Latin America and the Caribbean* comprises all American and Caribbean economies south of the United States, including Cuba.

- *Middle Eastern crescent* consists of the group of economies extending across North Africa through the Middle East to the Asian republics of the former Soviet Union and including Israel, Malta, Pakistan, and Turkey.

- *Formerly socialist economies of Europe (FSE)* includes the European republics of the former Soviet Union and the formerly socialist economies of Eastern and Central Europe.

- *Established market economies (EME)* includes all the countries of the Organization for Economic Cooperation and Development (OECD) except Turkey, as well as a number of small high-income economies in Europe.

These eight regions fall into two broad demographic groups. The first consists of the FSE and EME, where relatively uniform age distributions are leading to older populations. The other six regions are referred to as *demographically developing*, in the sense that their age distributions are younger but aging. The demographically developing economies correspond approximately to the low- and middle-income economies. Figure 1 of the Overview depicts these regional groups. Table A.10 of Appendix A lists all economies by demographic region and indicates their mid-1990 population. Appendix tables A.3 through A.9 provide demographic and health data by economy within these regions for economies with populations greater than 3 million.

The regional grouping of economies in the WDI differs from that used in the main text of this Report. Part 1 of the table "Classification of economies" at the end of the WDI lists countries by the WDI's income and regional classifications.

Low-income and middle-income economies are sometimes referred to as developing economies. The use of the term is convenient; it is not intended to imply that all economies in the group are experiencing similar development or that other economies have reached a preferred or final stage of development. Classification by income does not necessarily reflect development status. (In the WDI, high-income economies classified as developing by the United Nations or regarded as developing by their authorities are identified by the symbol †.) The use of the term "countries" to refer to economies implies no judgment by the Bank about the legal or other status of a territory.

Analytical groups

For some analytical purposes, other overlapping classifications that are based predominantly on exports or external debt are used, in addition to income or geographic groups. Listed below are the economies in these groups that have populations of more than 1 million. Countries with sparse data and those with less than 1 million population, although not shown separately, are included in group aggregates.

- *Fuel exporters* are countries for which exports of petroleum and gas accounted for at least 50 percent of exports in the period 1987-89. They are Algeria, Angola, Brunei, Congo, Gabon, Islamic Republic of Iran, Iraq, Libya, Nigeria, Oman, Qatar, Saudi Arabia, Trinidad and Tobago, Turkmenistan, United Arab Emirates, and Venezuela.

- *Severely indebted middle-income economies* (abbreviated to "Severely indebted" in the WDI) are twenty-one countries that are deemed to have encountered severe debt-servicing difficulties. These are defined as countries in which, averaged over 1989-91, either of two key ratios is above critical levels: present value of debt to GNP (80 percent) or present value of debt to exports of goods and all services (200 percent). The twenty-one countries are Albania, Algeria, Angola, Argentina, Bolivia, Brazil, Bulgaria, Congo, Côte d'Ivoire, Cuba, Ecuador, Iraq, Jamaica, Jordan, Mexico, Mongolia, Morocco, Panama, Peru, Poland, and Syrian Arab Republic.

- In the WDI, *OECD members*, a subgroup of high-income economies, comprises the members of the OECD except for Greece, Portugal, and Tur-

key, which are included among the middle-income economies. In the main text of the Report, the term "OECD countries" includes *all* OECD members unless otherwise stated.

Data notes

- *Billion* is 1,000 million.
- *Trillion* is 1,000 billion.
- *Tons* are metric tons, equal to 1,000 kilograms, or 2,204.6 pounds.
- *Dollars* are current U.S. dollars unless otherwise specified.
- *Growth rates* are based on constant price data and, unless otherwise noted, have been computed with the use of the least-squares method. See the technical notes to the WDI for details of this method.
- *The symbol / in dates*, as in "1988/89," means that the period of time may be less than two years but straddles two calendar years and refers to a crop year, a survey year, or a fiscal year.
- *The symbol .. in tables* means not available.
- *The symbol — in tables* means not applicable. (In the WDI, a blank is used to mean not applicable.)
- *The number 0 or 0.0 in tables and figures* means zero or a quantity less than half the unit shown and not known more precisely.

The cutoff date for all data in the WDI is April 30, 1993.

Historical data in this Report may differ from those in previous editions because of continuous updating as better data become available, because of a change to a new base year for constant price data, or because of changes in country composition of income and analytical groups.

Economic and demographic terms are defined in the technical notes to the WDI.

Acronyms and initials

AIDS	Acquired immune deficiency syndrome
ARI	Acute respiratory infection
BCG	Bacillus of Calmette and Guérin vaccine (to prevent tuberculosis)
DALY	Disability-adjusted life year
DPT	Diphtheria, pertussis, and tetanus vaccine
EPI	Expanded Programme on Immunization (immunization against diphtheria, pertussis, tetanus, poliomyelitis, measles, and tuberculosis)
EPI Plus	EPI with additional components: immunization against hepatitis B and yellow fever and, where appropriate, vitamin A and iodine supplementation
GBD	Global burden of disease
GDP	Gross domestic product
GNP	Gross national product
HIV	Human immunodeficiency virus
HMO	Health maintenance organization
NGO	Nongovernmental organization
OECD	Organization for Economic Cooperation and Development (Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States)
STD	Sexually transmitted disease
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNPF	United Nations Population Fund
WHO	World Health Organization